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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,969	04/17/2001	Bozidar Janko	7144 US	8484

7590 06/10/2005

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EXAMINER	
DUONG, FRANK	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/836,969	JANKO ET AL.	
	Examiner	Art Unit	
	Frank Duong	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is a response to communications dated 01/07/05. Claims 1-15 are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al (USP 5,768,527) (hereinafter "Zhu") in view of Wolf et al (USP 5,446,492) (hereinafter "Wolf").

Regarding **claim 1**, In accordance with Zhu reference entirety, Zhu discloses a system (see '527, Fig. 5) comprising, among other things, a packetizer (502) receiving

video signal (multimedia bitstream) packetizes the video signal, transmits the packetized video signal (514) over a packet network (504) and a depacketizer (506) depacketizes (304) the received packetized video signal at the destination video (col. 10, lines 17-67). Zhu relies on feedback from a receiver to retransmitting the loss packet to provide a way to improve quality of service (QoS). Zhu fails to teach a means for measuring the video quality base on the feedback or analysis at the receiving end comprising the limitations stated in the claims. However, such limitations lack thereof from Zhu are well known and disclosed by Wolf.

In accordance with Wolf reference entirety, Wolf discloses a streaming media quality analyzer system (Fig. 2 and col. 3, line 66 to col. 5, line 3) comprising: means for transmitting streaming media from a source (1) over a network (3 and 11) to a remote site (5) (col. 4, lines 2-3, Wolf discloses video source signal 1); means for performing an analysis (12) of the streaming media received at the remote site (col. 4, line 40 to col. 5, line 13); means for transmitting results of the analysis (30 and 32) over the network (3 and 11) to a measurement site (6) (col. 5, lines 13-25); means for reconstructing (34 and 35) at the measurement site using the results of the analysis the streaming media received at the remote site (col. 5, lines 27-38); and means for analyzing (35) the reconstructed streaming media at the measurement site to determine the quality of the streaming media received at the remote site (col. 5, lines 27-38).

Thus, it would have been obvious to those skilled in the art at the time of the invention was made, having Zhu and Wolf references readily available, to implement Wolfs streaming media quality analyzer system into Zhu's system to arrive the claimed

invention with a motivation to provide a method of computing means squared error or video quality in a system having video source and destination not geographically co-located ('492, col. 2, lines 5-10 and thereinafter).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Zhu in view of Wolf further discloses wherein the packetized streaming media transmitting means comprises means for packetizing the streaming media into user datagram protocol packets as the packetized streaming media ('527, Fig. 5; element 510 and col. 10, lines 51-53).

Regarding **claim 3**, in addition to features recited in base claim 2 (see rationales discussed above), Zhu in view of Wolf further discloses wherein the results transmitting means comprises means for packetizing the results into transmission control protocol packets ('492, col. 5, lines 1 8-2 1 or .527, col. 5, line 3).

Regarding **claim 4**, in addition to features recited in base claim 3 (see rationales discussed above), Zhu in view of Wolf further discloses a first means for decoding the reconstructed packetized streaming media to recover an impaired streaming media ('492, Fig. 2; element 34 and col. 6, lines 26-55); and means for determining from the impaired streaming media the quality of the packetized streaming media received at the remote site ('492, Fig. 2; element 35 and col. 6, lines 55-60).

Regarding **claim 5**, in addition to features recited in base claim 4 (see rationales discussed above), Zhu in view of Wolf further discloses wherein the determining means comprises a media quality analyzer having a reference input coupled to receive the streaming media from the source and a test input coupled to receive the impaired

streaming media and providing as an output a measure of the quality of the packetized streaming media received at the remote site ('492, Fig. 2; element 35 and col. 5, lines 26-38 and col. 6, lines 55-60).

Regarding **claim 6**, in addition to features recited in base claim 4 (see rationales discussed above), Zhu in view of Wolf further discloses wherein the determining means comprises: second means for decoding the packetized streaming media from the source to recover the streaming media ('492,' Fig. 2; element 34 and col. 6, lines 26-55), and a media quality analyzer having a reference input coupled to receive the streaming media from the second decoding means and a test input coupled to receive the impaired streaming media and providing as an output a measure of the quality of the packetized streaming media received at the remote site ('492, Fig. 2; element 35 and col. 5, lines 26-38 and col. 6, lines 55-60).

Regarding **claim 7**, in addition to features recited in base claim 3 (see rationales discussed above), Zhu in view of Wolf further discloses means for recovering the packetized streaming media from the network as originally transmitted by the source, the recovered packetized streaming media being input as the packetized streaming media to the reconstructing means ('492, Fig. 2; element 18-24); means for decoding the recovered packetized streaming media and the reconstructed packetized streaming media to produce a reference streaming media and an impaired streaming media respectively ('492, Fig. 2; element 34); and means for determining from the reference streaming media and the impaired streaming media a measure of the quality of the ê packetized streaming media received at the remote site ('492, Fig. 2; element 35).

Regarding **claim 8**, in addition to features recited in base claim 2 (see rationales discussed above), Zhu in view of Wolf further discloses wherein the results transmitting means comprises means for packetizing the results into realtime transport control protocol packets where realtime transport protocol is used as an application layer over user datagram protocol packets ('492, col. 5, lines 18-21 or '527, col. 5, line 3. Note: The control messages disclosed by Zhu is equated to correspond RTCP because of the network 804 of '527 patent is a packet network and the data sent is a multimedia required realtime transport protocol).

Regarding **claim 9**, In accordance with Zhu reference entirety, Zhu discloses a method (see '527, Fig. 5) comprising, among other steps, packetizing (502) the video signal, transmitting the packetized video signal (514) over a packet network (504) and a depacketizing (506) the received packetized video signal at the destination video (col. 10, lines 17-67). Zhu relies on feedback from a receiver to retransmitting the loss packet to provide a way to improve quality of service (QoS). Zhu fails to teach steps for measuring the video quality base on the feedback or analysis at the receiving end comprising the limitations stated in the claims. However, such limitations lacks thereof from Zhu are well known and disclosed by Wolf.

In accordance with Wolf reference entirety, Wolf discloses a streaming media quality analyzer method (Fig. 2 and col. 3, line 66 to col. 5, line 38) comprising: transmitting streaming media from a source (1) over a network (3 and 11) to a remote site (5) (col. 4, lines 2-3, Wolf discloses video source signal 1); performing an analysis (12) of the streaming media received at the remote site (col. 4, line 40 to col. 5, line 13);

transmitting results of the analysis (30 and 32) over the network (3 and 11) to a measurement site (6) (col. 5, lines 13-25); reconstructing (33 and 35) at the measurement site using the results of the analysis the streaming media received at the remote site (col. 5, lines 27-38); and analyzing (35) the reconstructed streaming media at the measurement site to determine the quality of the streaming media received at the remote site (col. 5, lines 27-38).

Thus, it would have been obvious to those skilled in the art at the time of the invention was made, having Zhu and Wolf references readily available, to implement Wolf's streaming media quality analyzer method into Zhu's teaching to arrive the claimed invention with a motivation to provide a method of computing means squared error or video quality in a system having video source and destination not geographically co-located ('492, col. 2, lines 5-10 and thereinafter).

Regarding **claim 10**, In accordance with Zhu reference entirety, Zhu discloses a system (see '527, Fig. 5) comprising, among other things, a packetizer (502) receiving video signal (multimedia bitstream) packetizes the video signal, transmits the packetized video signal (514) over a packet network (504) and a depacketizer (506) depacketizes (304) the received packetized video signal at the destination video (col. 10, lines 17-67). Zhu relies on feedback from a receiver to retransmitting the loss packet to provide a way to improve quality of service (QoS). Zhu fails to teach a means for measuring the video quality base on the feedback or analysis at the receiving end comprising the imitations stated in the claims. However, such limitations lacks thereof from Zhu are well known and disclosed by Wolf.

In accordance with Wolf reference entirety, Wolf discloses a streaming media quality analyzer system (Fig. 2 and col. 3, line 66 to col. 5, line 384 comprising: means for transmitting streaming media from a source (1) over a network (3 and 11) to a remote site (5) (col. 4, lines 2-3, Wolf discloses video source signal 1); means for performing an analysis (12) of the streaming media received at the remote site (col. 4, line 40 to col. 5, line 13); means for transmitting results of the analysis (30 and 32) over the network (3 and 11) to a measurement site (6) (col. 5, lines 13-25); means at the measurement site for reconstructing (33 and 35) from the packetized streaming media from the source and the results from the remote site the packetized streaming media as received at the remote site (col. 5, lines 27-38); and means for analyzing (35) the reconstructed streaming media at the measurement site to determine the quality of the streaming media received at the remote site (col. 5, lines 27-38).

Thus, it would have been obvious to those skilled in the art at the time of the invention was made, having Zhu and Wolf references readily available, to implement Wolf's streaming media quality analyzer system into Zhu's system to arrive the claimed invention with a motivation to provide a method of computing means squared error or video quality in a system having video source and destination not geographically co-located ('492, col. 2, lines 5-10 and thereinafter).

Regarding **claim 11**, In accordance with Zhu reference entirety, Zhu discloses a system (see '527, Fig. 5) comprising, among other things, a packetizer (502) receiving video signal (multimedia bitstream) packetizes the video signal, transmits the packetized video signal (514) over a packet network (504) and a depacketizer (506)

depacketizes (304) the received packetized video signal at the destination video (col. 10, lines 17-67). Zhu relies on feedback from a receiver to retransmitting the loss packet to provide a way to improve quality of service (QoS). Zhu fails to teach a means for measuring the video quality base on the feedback or analysis at the receiving end comprising the limitations stated in the claims. However, such limitations lack thereof from Zhu are well known and disclosed by Wolf.

In accordance with Wolf reference entirety, Wolf discloses a streaming media quality analyzer system (Fig. 2 and col. 3, line 66 to col. 5, line 38) comprising: means for transmitting streaming media from a source (1) over a network (3 and 11) to a remote site (5) (col. 4, lines 2-3, Wolf discloses video source signal 1); a reference server ('492, Fig. 2; element 26-32) located at the remote site having as an input the packetized streaming media as received at the remote site and having as an output an analysis (12) of the streaming media (col. 4, line 40 to col. 5, line 13); means for transmitting the analysis (30 and 32) over the network (3 and 11) to a measurement site (6) (col. 5, lines 13&25); a receiver emulator (34 and 35) having as inputs the packetized media (outputs of 32 into 34 or output of 15 into 35) the analysis and having as an output a reconstructed packetized streaming media that resembles the packetized streaming media received at the remote site (col. 5, lines 27-38 and col. 6, lines 26-60); and means for analyzing (35) the reconstructed streaming media to determine the quality of the streaming media received at the remote site (col. 5, lines 27-38).

Thus, it would have been obvious to those skilled in the art at the time of the invention was made, having Zhu and Wolf references readily available, to implement

Wolf's streaming media quality analyzer system into Zhu's system to arrive the claimed invention with a motivation to provide a method of computing means squared error or video quality in a system having video source and destination not geographically co-located ('492, col. 2, lines 5-10 and thereinafter).

Regarding **claim 12**, in addition to features recited in base claim 11 (see rationales discussed above), Zhu in view of Wolf further discloses means for decoding the reconstructed packetized streaming media to recover an impaired streaming media ('492, Fig. 2; element 34 and col. 6, lines 26-55); and a media quality analyzer having the impaired streaming media as an input which determines the quality of the packetized streaming media received at the remote site ('492, Fig. 2; element 35 and col. 6, lines 55-60).

Regarding **claim 13**, in addition to features recited in base claim 12 (see rationales discussed above), Zhu in view of Wolf further discloses wherein the media quality analyzer has a reference input to which the streaming media from the source is applied and a test input to which the impaired streaming media is applied, and has an output providing a measure of the quality of the packetized streaming media received at the remote site ('492, Fig. 2; element 35 and col. 5, lines 26-38 and col. 6, lines 55-60).

Regarding **claim 14**, in addition to features recited in base claim 13 (see rationales discussed above), Zhu in view of Wolf further discloses wherein the analyzing means further comprises a second means for decoding ('492, Fig. 2; elements 18-24) original data packets representing the streaming media in the packetized streaming media prior to transmission over the network ('492, Fig. 2; 3 or '527, Fig. 5; 504) to

recover the streaming media from the source for input to the media quality analyzer ('492, col. 4, lines 2-7).

Regarding **claim 15**, in addition to features recited in base claim 14 (see rationales discussed above), Zhu in view of Wolf further discloses wherein the analyzing means further comprises means at the measurement site for recovering the packetized streaming media from the network resembling the packetized streaming media prior to transmission over the network, the recovered packetized streaming media being input to the second decoding means to recover the streaming media from the source (col. 5, lines 27-38 and col. 6, lines 26-60).

Response to Arguments

3. Applicant's arguments filed 01/07/05 have been fully considered but they are not persuasive.

In the Remarks of the outstanding response, on page 10, last paragraph, Applicants forcefully state "*Applicants respectfully traverse this improper and nonobvious combination suggested by the Examiner having the benefit of hindsight*".

In response Examiner respectfully disagrees and asserts the claimed invention is not novel and unobvious. The Office Action does indeed have properly provided the modification of references as well as motivation to arrive the claimed invention. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning.

But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In the Remarks of the outstanding response, on page 11, last paragraph continues to page 12, Applicants argue "*Wolf does not analyze reconstructed packetized streaming media that represents the packetized streaming media received at the remote site*".

In response Examiner respectfully disagrees and asserts the Wolf reference disclosed just that. Let's visit Wolf reference. At col. 5, lines 26-30 (in reference to Fig. 2), Wolf states "*source features 7 and destination features 9 are used by the quality processor 35 to compute a set of quality parameters 13 (p1, p2, ...)*." Also, at col. 6, lines 17-25 (in reference to Fig. 3), Wolf states "*quality analysis means 43 determines the optimal combination of the source features 7 and the destination features 9 so that the quality parameter 13 and the quality score parameter 14 are produced ... quality analysis means 43 determines the internal functioning of the quality processor 35.*" The "*destination features 7*" is corresponding to the "*reconstructed packetized streaming media that represents the packetized streaming media received at the remote site*". Thus, contradiction to the Applicants' arguments, the Wolf reference, as clearly pointed out in the Office Action, discloses the argued limitation.

Examiner believes an earnest attempt has been made in addressing all of the Applicants' arguments. Due to the amendment fails to place the application in a

favorable condition for allowance and the arguments are not persuasive, the rejection is maintained.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is 571-272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FRANK DUONG
PRIMARY EXAMINER

June 8, 2005